Office of Climate Change and Energy Efficiency

2015-16

Annual Report

Newfoundland Labrador

Table of Contents

Message from the Minister 2

1.0 Overview 3

Mandate 3

Vision 3

Mission 3

Lines of Business 4

2.0 Shared Commitments 5

3.0 Highlights and Accomplishments 7

4.0 Report on Performance 8

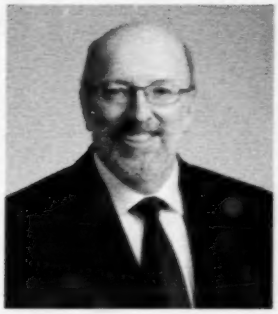
Issue 1: Risks and Opportunities Associated with Climate Change Impacts 8

Issue 2: Transitioning to a Lower-Carbon and Energy-Efficient Province 13

5.0 Opportunities and Challenges 18

Appendix: Financial Statements 19

Message from the Minister



As Minister Responsible for the Office of Climate Change and Energy Efficiency and in accordance with the Government of Newfoundland and Labrador's commitment to accountability, I am pleased to present the 2015-16 Annual Report for the Office of Climate Change and Energy Efficiency.

As a category two government entity, this report addresses the Office's activities and outputs from April 1, 2015 to March 31, 2016, which encompasses the second year of the Office's 2014-2017 Business Plan. As Minister, I am accountable for the results that are reported in this document.

The Government of Newfoundland and Labrador believes that climate change is one of the greatest challenges facing the planet, and that our province needs to be part of the solution. Climate change also presents opportunities, such as improved business competitiveness through energy efficiency and job growth in the green economy.

Over this reporting period, the Office of Climate Change and Energy Efficiency has taken significant steps to raise public awareness of the importance of taking action on climate change, to enhance the province's ability to plan and adapt to its impacts, and to position the province to minimize the risks and maximize the opportunities associated with climate change. The Office also supported the province's participation in key events on climate change, including being a part of the Canadian delegation at the United Nations climate change negotiations in Paris, where national governments signed a new legally-binding agreement to tackle climate change post 2020, and participating in the Climate Summit of the Americas where Newfoundland and Labrador joined 22 other provinces, states and regional governments in signing a Climate Action Statement, and joined the Compact of States and Regions.

Over the past year, the Office has continued to advance sustained action on climate change and energy efficiency that balances economic and environmental considerations. By strengthening the evidence base, providing advice to departments, and collaborating with other governments and stakeholders, we have improved our capacity both to address the challenges and take advantage of opportunities presented by climate change.

As the Minister responsible, I am proud of the accomplishments of the Office which was incorporated into the newly-formed Department of Environment and Climate Change on August 17, 2016. I look forward to building on the progress made to date on the important issue of climate change and anticipate further success going forward.

Honourable Perry Trimper
Minister of Environment and Climate Change

1.0 Overview

The Office of Climate Change and Energy Efficiency was established to lead policy and strategy development on issues relating to climate change and energy efficiency within the Government of Newfoundland and Labrador. The Office works collaboratively with other departments and agencies to ensure climate change and energy efficiency are effectively integrated into policy development and decision making processes. The Office regularly engages with stakeholders and other governments to strengthen the evidence base on climate change and energy efficiency within government and to demonstrate government's commitment to action in these important areas.

Mandate

The mandate of the Office of Climate Change and Energy Efficiency is:

- To advance sustained action on climate change and energy efficiency that effectively balances economic and environmental considerations, including deepening public awareness, understanding and engagement;
- To undertake focused research and analysis to enable the province to maximize opportunities and reduce risks from the impacts of climate change and the move towards a lower-carbon global economy;
- To work with departments to better integrate climate change and energy efficiency considerations into their current and future programs, services, legislation and regulations, and ensure effective coordination across government; and
- To advance the province's interests and priorities in regional, national and international forums on climate change and energy efficiency, and engage external stakeholders to deepen and widen government's dialogue on next steps.

To fulfill its mandate, the Office of Climate Change and Energy Efficiency (CCEE) is composed of eight staff members (three females, four males and one vacant position) and is located on the 5th Floor of West Block, Confederation Building in St. John's. For the fiscal year 2015-16, CCEE's expenditures totaled $1,052,000. For further details, please see the Appendix.

Vision

The vision of the Office of Climate Change and Energy Efficiency is of a province that achieves economic, social and environmental success by effectively integrating progressive action on climate change and energy efficiency.

Mission

By 2017, the Office of Climate Change and Energy Efficiency will have advanced the province's capacity to reduce greenhouse gas (GHG) emissions, adapt to the impacts of climate change and improve energy efficiency.

This mission statement identifies CCEE's priority areas over two planning cycles and represents the key longer-term results the Office will be working towards. A full mission statement, including measures and indicators, is contained in CCEE's 2014-17 Business Plan.

Lines of Business

The Office of Climate Change and Energy Efficiency has four lines of business:

Policy and Strategy Development - CCEE has lead responsibility within government for policy and strategy development on climate change and energy efficiency. This includes analyzing the implications of different policy approaches to achieve government's GHG reduction and energy efficiency targets and desired outcomes; understanding the impacts of climate change and economic opportunities for the province; assessing the implications of national and international developments for the province; overseeing delivery of the 75 commitments in the 2011 Climate Change and Energy Efficiency Action Plans, which are owned by 13 different entities, including CCEE; and leading efforts to engage the public.

Strengthening the Evidence Base - CCEE has lead responsibility within government for research, data and analysis on climate change and energy efficiency. For example, CCEE leads the development of provincial GHG projections; reviews the impact of different carbon prices on the provincial economy; deepens understanding of how the province may be impacted by climate change and what can be done to improve resilience; and works with economic and energy models to better understand the relationship between investments in energy efficiency, energy consumption and economic activity.

Promoting Government-Wide Action - CCEE provides specialist knowledge and expertise to strengthen departments' understanding of climate change and energy efficiency and to help them integrate these issues into their ongoing operations, programs, legislation, and regulations. The Office aims to drive action across government and ensure that government takes a coordinated approach to the opportunities and challenges to help ensure resources are directed to where they will have the most impact.

Representing the Province in Intergovernmental Forums and Engaging External Stakeholders - CCEE represents the province's interests in regional, national and international forums on climate change and energy efficiency. The Office has an extensive network of contacts in other jurisdictions which it actively engages to advance the province's policy objectives. CCEE also engages external stakeholders to help inform analysis and guide the implementation of commitments, including large industry, the electrical utilities, industry associations, academia, non-government organizations and other governments such as the Nunatsiavut Government.

2.0 Shared Commitments

The mandate of the Office of Climate Change and Energy Efficiency is achieved by working in partnership with Government of Newfoundland and Labrador departments and agencies, as well as with other federal-provincial-territorial governments, municipalities, Aboriginal governments and organizations, community organizations, academia and industry partners.

A key part of CCEE's work is creating strong networks and partnerships to make progress on these issues. As an example, in 2015-16 CCEE engaged engineering consultants and municipal and provincial officials to determine how climate change tools and resources developed by the Office are being used to improve decision-making and adapt to the effects of a changing climate and what training requirements exist for these resources. CCEE also engaged Provincial Government officials, municipal officials, the construction industry and training providers as part of its work in examining the case for adopting the National Energy Code for Buildings in Newfoundland and Labrador.

CCEE is responsible for overseeing the implementation of specific Government of Newfoundland and Labrador commitments, policies and initiatives. Actions undertaken in 2015-16 include:

- CCEE maintained engagement with partner departments and entities and held bilateral meetings to advance progress on the 75 commitments for action included in the province's 2011 Climate Change and Energy Efficiency Action Plans.
- CCEE worked with partner entities to deliver on commitments in the Greening Government Action Plan which aims to create a culture of environmental sustainability within the Government of Newfoundland and Labrador, including working with the Government Purchasing Agency to develop an e-learning module on green procurement, and working with the Department of Transportation and Works to develop guidance to support the right-sizing of government's light duty vehicle fleet by identifying when smaller vehicles are adequate for a vehicle's intended purpose.
- CCEE worked with external organizations to advance actions included in the Market Transformation Framework, which aims to improve energy efficiency and energy conservation through supporting increased awareness and demand for energy-efficient and lower greenhouse gas (GHG)-emitting goods and services, and supporting better access to these goods and services in the marketplace. This includes working with the NL Construction Association in the delivery of training to industry professionals on energy efficiency in building design and construction.

In addition to the above examples, CCEE continues to integrate climate change and energy efficiency into government's planning and decision-making processes by working closely with other departments and agencies. For example, as part of its role reviewing development and land-use proposals, throughout 2015-16, CCEE reviewed and provided input on 53 Environmental Assessments and 54 land-use applications as a member of the Interdepartmental Land Use Committee. Through feeding into these processes, CCEE ensures climate projections, GHG reduction and energy efficiency are being considered in plans for community and economic development.

As discussed later in this document, 2015-16 was a significant year for demonstrating leadership on climate change and energy efficiency. The Office supported the Provincial Government's participation in key intergovernmental forums on climate change including the Quebec Climate Change Summit, the Climate Summit of the Americas held in Toronto and the United Nations Paris Climate Conference. CCEE also supported the Premier's participation in a meeting of First Ministers on climate change and a

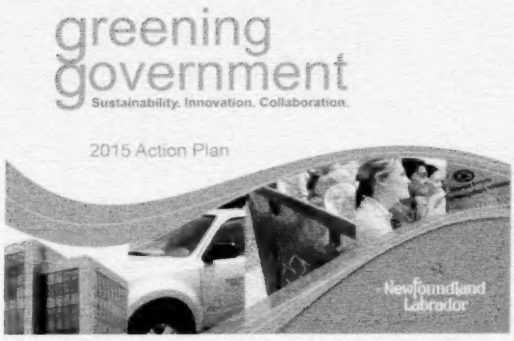
federal-provincial-territorial meeting of environment and climate change Ministers, and is leading the province's participation in the development of a pan-Canadian framework on clean growth and climate change.

The above examples highlight how CCEE has consistently worked horizontally across government and collaborated with a multitude of entities to support progress on climate change and energy efficiency in Newfoundland and Labrador.

3.0 Highlights and Accomplishments

The Office of Climate Change and Energy Efficiency undertook significant work in 2015-16 which informed the development of the province's first climate change-related legislation, the *Management of Greenhouse Gas Act*, which was passed by the House of Assembly in June 2016. This included consulting with Aboriginal governments and organizations in the province, and continued engagement with other provinces and the federal government to inform the development of the Act.

The 2015-16 fiscal year included work to improve the Provincial Government's Turn Back the Tide website at www.turnbackthetide.ca, making it more user-friendly and informative. The Turn Back the Tide website is a central component of efforts to raise public awareness and understanding about climate change. CCEE work included editing and consolidating text to enhance online readability; adding new sections targeting schools and municipalities; and creating a new interactive tool on how the province is being impacted by climate change. The updated website, which is optimized to function across a wider variety of devices, went live in May 2016.



The 2015-16 fiscal year also marked the first full year of implementation of the Greening Government Action Plan, which is overseen by CCEE in cooperation with participating departments and agencies. The Plan sets out 46 commitments, which are led or co-led by 10 Provincial Government departments and agencies, that support government's goal of showing leadership in its own operations across the five strategic objectives: Green Procurement; Waste Diversion; Transportation; Buildings; and Employee Engagement. To support the Plan, each government department is tasked with developing annual lists of 8-10 practical actions to help green their day-to-day activities and CCEE provides advice and support in developing and implementing these actions.

In total, 28 government departments and agencies committed to implement 247 actions to improve the environmental sustainability of their operations for the five strategic objectives outlined in the Plan. These actions resulted in significant contributions towards greening government, for example:

- 54 per cent of the waste generated by core government was diverted from landfills;
- Over 150 kilograms of organic waste was composted;
- Over 700 batteries were disposed of responsibly;
- 11 departments and agencies developed energy-saving policies (e.g. turning off lights and computers, controlling thermostats);
- Over 80 webinars and teleconferences were held virtually or by phone;
- 21 departmental green teams or committees were established; and
- 17 departments and agencies shared green tips/ideas with employees.

4.0 Report on Performance

March 31, 2016, marked the end of the second year of CCEE's three-year business plan. The plan identifies two strategic issues that guide CCEE's work over the 2014-17 period: 1) risks and opportunities associated with climate change impacts, and 2) transitioning to a low-carbon and energy-efficient province. This section reports on CCEE's performance for the 2015-16 objective for each of these issues.

Issue 1: Risks and Opportunities Associated with Climate Change Impacts

Climates around the world are changing as a result of rising global temperatures, and the effects of climate change are already being felt in Newfoundland and Labrador. Temperatures in the province are already 1.5°C warmer than historical averages and are expected to rise by more than 3°C in some parts of the province by mid-century. In Newfoundland and Labrador, climate change is expected to result in weather that is warmer and stormier, with more intense precipitation. Improving the province's ability to mitigate and adapt to these changes is consistent with the mandate and mission of CCEE.

Climate change presents multiple environmental, social and economic risks for Newfoundland and Labrador. For example:

- Extreme weather brought on by more frequent and intense storms can damage personal property and infrastructure which can impact public safety;
- The arrival of new pests and invasive species may affect human health and various economic sectors; and
- Changing winter patterns and sea ice may impact traditional transportation routes.

At the same time, climate change impacts can present opportunities for Newfoundland and Labrador. Climate change may result in longer agricultural growing seasons, the arrival of new wildlife and fish species as ecosystems and habitat ranges change, and increased summer tourism opportunities. Innovation in these areas can lead to new economic opportunities, new skills, technologies and processes which can support jobs growth.

By building capacity in this area, Newfoundland and Labrador will be better positioned to plan for the realities of a changing climate, while minimizing potential risks and maximizing opportunities.

Goal 1: By 2017, the Office of Climate Change and Energy Efficiency will have advanced initiatives to increase awareness and capacity to manage risks and seize opportunities associated with climate change impacts.

Reporting on Objective 1.2

The following table provides an overview of initiatives undertaken by CCEE during 2015-16 to fulfill its objective of collaborating with internal and external stakeholders on initiatives for managing risks and advancing opportunities across the province and within sectors.

The two indicators CCEE is reporting on under this objective are:

- Continued implementation of the climate change, energy efficiency and greening government action plans, including by providing support to departments and agencies.

- Engaged stakeholders in initiatives to improve understanding of the risks and opportunities associated with climate change.

Objective 1.2	By March 31, 2016, the Office will have collaborated with internal and external stakeholders on initiatives for managing risks and advancing opportunities across the province and within sectors.
Measure: Collaborated with internal and external stakeholders on initiatives aimed at managing risks and maximizing opportunities.	
Indicators (2015-16):	**Results:**
Continued implementation of the Climate Change, Energy Efficiency and Greening Government Action Plans, including by providing support to departments and agencies.	**Updating Intensity, Duration, Frequency (IDF) Curves:** In August 2015, CCEE signed a contract with GHD Limited, at a cost of $9,900 to expand climate projections that underpin the province's intensity, Duration, Frequency (IDF) curves. These curves are developed from historical data to predict future heavy rainfall events and are critical tools for ensuring infrastructure designs are able to withstand increases in precipitation. In total, 13 IDF curves were updated in a manner that complemented ongoing updates by Environment Canada for six additional curves, and projections for all 19 curves have been expanded to better reflect uncertainties in projected increases in precipitation as a result of climate change. This initiative supports commitments included in the Climate Change and Energy Efficiency Action Plans. The new IDF curves are available online at: www.exec.gov.nl.ca/exec/ccee/publications/idf_curve_2015.pdf **Evaluating the Effectiveness of Climate Change Adaptation Tools & Resources and Stakeholder Engagement and Training Programs** In October 2015, following a competitive bid process, CCEE contracted AMEC Foster Wheeler at a cost of $59,811 to undertake extensive stakeholder engagement with the objective of: o improving understanding of the uptake of existing climate change adaptation information products and tools with key stakeholders groups, including reasons for uptake, barriers to uptake, and gaps in provisions; o identifying ways in which government can increase the province's resilience to climate impacts through influencing decision-making, including through increasing the uptake of climate change information products and tools; and, o understanding the training needs and requirements for identified stakeholders on climate change adaptation information products and tools to meet their needs and enhance their capacity.

Between December 2015 and February 2016, AMEC conducted approximately 70 interviews with Provincial Government officials, municipal officials, and engineering consultants, and two evaluation reports were developed – one on the outcomes of stakeholder engagement and the other on training programs. This initiative supports commitments included in the Climate Change and Energy Efficiency Action Plans and the two reports are posted on CCEE's corporate website and the Open Government website.

Launching a New Climate Data Portal

A new online climate data portal has been developed on the CCEE website to serve as a single point of entry for climate data to support stakeholders in understanding and making decisions bearing in mind the impacts of climate change. The online portal includes historical Environment Canada weather data and updated IDF curves that are used by engineers to design infrastructure. The online portal also includes temperature and precipitation projections, and links to flood risk maps and other resources. This initiative supports commitments included in the Climate Change and Energy Efficiency Action Plans. The climate data portal is found at: http://www.exec.gov.nl.ca/exec/ccee/climate-data/index.html

Supporting Intergovernmental Engagement on Climate Change

Supporting commitments in the Climate Change and Energy Efficiency Action Plans, CCEE provided policy analysis to support the province's participation at key intergovernmental meetings focusing on climate change throughout 2015-16, including:

- The April 2015 provincial-territorial Quebec Climate Change Summit at which premiers committed to strengthen collaboration on climate change;
- The July 2015 Council of the Federation meeting in St. John's, where premiers adopted a Canadian Energy Strategy that addresses the need to tackle climate change;
- The August 2015 Conference of New England Governors and Eastern Canadian Premiers where leaders adopted a regional target to reduce greenhouse gas emissions by between 35-45 per cent below 1990 levels by 2030;
- The December 2015 21st meeting of the Conference of the Parties (known as COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, where international leaders adopted a new legally-binding agreement to tackle climate change post 2020;
- The January 2016 meeting of Canadian Ministers of the Environment in preparation for a First Ministers' meeting; and
- The March 2016 First Ministers' meeting where Canada's premiers and the Prime Minister agreed to develop a pan-Canadian framework on clean growth and climate change to grow the economy while reducing greenhouse gas emissions.

Engaging Government Departments on Climate Change Adaptation
CCEE communicated regularly with various Provincial Government departments and agencies on matters related to climate change adaptation, including through its newsletter. Key information shared across government included updated IDF curves to assist in infrastructure design and construction and new flood risk mapping that identifies areas expected to become at risk of flooding based on future climate projections. Flood risk maps are an important consideration for site selection for new infrastructure and using these maps helps further the Greening Government Action Plan commitment related to the continued implementation of the Build Better Buildings policy.

Supporting the Development of Climate Change Risk Assessment Tools
CCEE provided $25,000 in financial as well as in-kind support to Memorial University (MUN) to support to a research project led by researchers in MUN's Department of Geography to assess the risks to archaeological resources on the province's coasts stemming from climate change-related sea-level rise and storm surge. CCEE's financial and consultative contributions supported the development and piloting of a user guide to assist heritage managers and other decision-makers in using a first-of-its-kind Geographic Information System (GIS)-based tool, developed by MUN researchers, to perform assessments of coastal archaeological resources, as well as to pilot the tool in four archaeological offices through the province.

CCEE's contributions also supported the development of a report which includes findings from the piloting of the tool and user guide, and ways that they could be adapted to perform risk assessments for other, non-archaeological resources along the province's coasts, such as property and infrastructure, from climate change effects related sea-level rise and storm surge. The report is posted on CCEE's corporate website as well as the Open Government website.

Engaged stakeholders in initiatives to improve understanding of the risks and opportunities associated with climate change.

Continuing the NL Adaptation Network
CCEE established a provincial adaptation network in 2013 to promote collaboration and share best practices on issues relating to climate change adaptation in Newfoundland and Labrador, and to discuss priorities going forward. This network includes representatives from eight government departments and agencies, as well as Memorial University, Municipalities Newfoundland and Labrador, and the Newfoundland and Labrador Environmental Industry Association. The Network meets regularly to discuss a range of issues including data gathering and utilization of data by engineers, municipalities and other stakeholders to improve resilience to climate change impacts. Two in-person meetings of the Adaptation Network were held in 2015-16, and invitations to participate in 13 online webinars on climate change adaptation were sent to the Network.

Engaging with Stakeholder Groups

Delivering presentations to stakeholder groups about the impacts of climate change in Newfoundland and Labrador and options for minimizing risks and maximizing opportunities is a key part of CCEE's day-to-day business.

Throughout 2015-16, CCEE delivered presentations to municipal officials on new tools to assist municipal building inspectors and other officials in verifying that new and renovated buildings comply with the energy efficiency requirements of the National Building Code.

Climate change will impact every sector of the economy. As such, CCEE delivered presentations on the topic to a number of other stakeholders, including presentations to:

- Memorial University's Faculty of Business (May 9, 2015)
- Combined Councils of Labrador (June 11, 2015)
- New England Governors and Eastern Canadian Premiers Conference (August 31, 2015)
- Municipalities Newfoundland and Labrador's Urban Municipal Caucus (September 12, 2015)
- The Newfoundland and Labrador Environmental Industry Association *Newleef* Conference (October 9, 2015)

Objective and Indicators for 2016-17

The following table provides CCEE's objective and indicators for the 2016-17 fiscal year.

Objective 1.3	By March 31, 2017, the Office will have assessed progress on the 2011 Climate Change Action Plan and developed an approach to build on the strategic framework.
Measure: Assessed progress in meeting government's commitments to minimize risks and maximize opportunities associated with the impacts of climate change and advanced development of a renewed strategic approach	

Indicators:

- Engaged departments and agencies in implementing and assessing progress on government commitments to minimize risks and maximize opportunities associated with climate change.
- Engaged stakeholders in initiatives to improve understanding of the risks and opportunities associated with climate change and to solicit input on a renewed strategic approach.

Issue 2: Transitioning to a Lower-Carbon and Energy-Efficient Province

While improving our energy efficiency can make a significant contribution in the fight against climate change where it reduces dependency on carbon-based fuels, it can also provide other benefits, such as lower utility bills for households and lower operating costs and improved competitiveness for businesses. Improving the province's ability to minimize risks and maximize opportunities associated with a transition to a lower-carbon and more energy-efficient province is consistent with the mandate and mission of CCEE.

In the 2011 Climate Change and Energy Efficiency Action Plans, the Provincial Government reiterated its commitment to achieve targets for reducing GHG emissions and energy consumption. These commitments, which were initially made through the Conference of New England Governors and Eastern Canadian Premiers (NEG-ECP), include reducing energy consumption by 20 per cent by 2020, compared to business-as-usual projections, and reducing GHG emissions to 10 per cent below 1990 levels by 2020.

However, without additional action, provincial GHG emissions are projected to grow over the next decade and further policies and measures will be needed to advance progress towards meeting Newfoundland and Labrador's 2020 targets for reducing GHG emissions and energy consumption.

Goal 2: By 2017, the Office of Climate Change and Energy Efficiency will have advanced initiatives to increase understanding and capacity to transition to a lower-carbon and energy-efficient province.

Reporting on Objective 2.2

The table on the following page provides an overview of initiatives undertaken by CCEE during 2015-16 to fulfill its objective of advancing work to deepen the awareness and understanding within government and amongst stakeholders of the issues pertaining to the transition to a lower-carbon and energy-efficient province.

The two indicators for which CCEE are reporting on under this objective are:

- Continued implementation of the climate change, energy efficiency and greening government action plans, including by providing support to departments and agencies.

- Engaged stakeholders in initiatives aimed at minimizing risk and maximizing opportunities associated with the transition to a lower-carbon and energy-efficient economy.

Objective 2.2	By March 31, 2016, the Office will have collaborated with internal and external stakeholders on initiatives for maximizing opportunities associated with transitioning to a lower-carbon and more energy-efficient economy.

Measure: Collaborated with internal and external stakeholders on initiatives aimed at maximizing opportunities associated with transitioning to a lower-carbon and more energy-efficient economy.

Indicators (2015-16):	Results:
Continued implementation of the Climate Change, Energy Efficiency and Greening Government Action Plans, including by providing support to departments and agencies.	**Developing and Releasing a Market Transformation Framework** In October 2015, CCEE released a Market Transformation Framework which aims to improve energy efficiency and energy conservation, over the longer term, through supporting increased awareness and demand for energy-efficient and lower GHG-emitting goods and services, supporting better access to these goods and services in the marketplace and supporting industry and the workforce to maximize opportunities associated with increasing global demand for energy-efficient products and services. The Framework includes 19 action items targeted at buildings, the transportation sector, and products and services. The Framework satisfies commitments in the Climate Change and Energy Efficiency Action Plans and will be implemented over five years, with a report on progress provided at the midway point (early 2018). **Developing New Tools to Support Energy Efficiency in Buildings** In October 2015, the Office implemented an initiative to support construction industry professionals in positioning themselves to respond and maximize the benefits associated with increasing demand for energy efficiency in buildings, further to commitments in the Energy Efficiency Action Plan. CCEE contracted ThermalWise at a cost of $45,700 to design and deliver new tools and resources to assist building designers, architects, engineers, contractors and inspectors in incorporating energy efficiency into the construction of buildings. This initiative was completed in March 2016 and included the development of a technical guide for homes and small buildings and a technical guide for larger commercial buildings, as well as the design and delivery of in-person and webinar training sessions attended by over 230 construction industry professionals. Development of new guides: A new guide was developed to provide information on ways to incorporate energy efficiency into the construction of homes and small buildings. This guide expanded and built upon a previous guide which contained information strictly for homes, and includes tips, tools and checklists that building professionals and inspectors can use to verify that building designs meet building code energy efficiency requirements. The *Guide to Building Energy Efficient Homes and Small Buildings 2016* was launched at the Canadian Homebuilders Association of NL (CHBA-NL) AGM on February 10, 2016 and is available at: http://www.exec.gov.nl.ca/exec/ccee/publications/efficient_home_building_guide.pdf. Similarly, a new guide was developed to assist building designers, architects, engineers and contractors in incorporating energy efficiency into building

envelopes for larger commercial and multi-unit buildings. The guide provides tips, tools and best practices using local case studies and examples. The *Guide to Building Better Envelopes for Large Buildings 2016* is available at: http://www.exec.gov.nl.ca/exec/ccee/publications/building_envelopes_large_buildings.pdf.

Delivery of web-based and in-person training:
Training was developed and provided to industry stakeholders on ways to incorporate energy efficiency into the construction of homes and small buildings. The training provided a detailed and technical exploration of the energy efficiency requirements of the National Building Code as they relate to houses and small buildings, using locally relevant examples and case studies.

- Five full-day, in-person training sessions and three half-day webinar sessions were held. CCEE partnered with the CHBA-NL and the utilities' takeCHARGE! programs to identify and invite stakeholders, secure venues and conduct the sessions.
- In total, 172 industry stakeholders attended the in-person and webinar sessions for homes and small buildings.

Similarly, training was provided to building construction professionals on best practices for improving the performance of building envelopes, with a focus on how various codes, rating systems and standards are encouraging the design and construction of more energy-efficient large building envelopes.

- Three half-day, in-person training and two webinar sessions were held. CCEE partnered with the NL Construction Association and the utilities' takeCHARGE! programs to identify and invite stakeholders, secure venues and conduct the sessions.
- In total, 66 industry stakeholders attended the in-person and webinar sessions for large buildings.

Developing and Releasing a Report on Electric Vehicles
The Office undertook research and completed a report which presents a factual overview of various issues, including the current state of EV technology, issues pertaining to EV infrastructure (including implications for the electricity grid), an overview of other jurisdictions' actions, and a review of the situation in Newfoundland and Labrador. The report was released in November 2015 and is available at:
http://www.exec.gov.nl.ca/exec/ccee/publications/electric_veh_report.pdf.

Joining the Compact of States and Regions
In September 2015, the Government of Newfoundland and Labrador joined the Compact of States of Regions (CSR), which is a dedicated global reporting mechanism for subnational governments including states, provinces and regions to showcase and analyze their climate change efforts. Participants in the CSR agree to report their climate commitments, actions and emission inventories annually, to support sustained action and progress in reducing GHG emissions. The Compact of States and Regions spans 18 countries, six continents and represents over 12.5 per cent of the global economy.

Supporting Efforts to Green Government

Throughout 2015-16, CCEE worked with government departments and agencies on initiatives to make government operations more sustainable and environmentally friendly, in support of the Greening Government Action Plan. In addition to providing regular advice and support to departments and agencies in grass roots efforts to green their operations, CCEE completed a cost-benefit analysis related to the adoption of the National Energy Code for Buildings to enhance the evidence base regarding the lifecycle costs of constructing buildings to higher standards of energy efficiency.

Completing and Evaluating the Energy Conservation in Homes Pilot:

In partnership with NL Hydro, CCEE completed a pilot to determine how and if individuals in the province change their electricity consumption behavior when provided with real-time information about their electricity use. Real time electricity monitors were provided to 500 homeowners.

- On average, these homeowners saved 1.2 per cent off their electricity use. This is in line with other recent studies throughout North America.
- Homes that were heated only by electricity did not achieve any savings. The only savings that were achieved were by homes that had two or more sources for heating, such as electricity and wood or fuel oil. These homeowners saved four per cent in terms of electricity use. The evaluator suggested that these homeowners likely switched their heating from electricity to another source.

The project costs over two years were about $319,800 against a budget of $350,000. A full program summary is available at: http://www.exec.gov.nl.ca/exec/ccee/publications/RTM_Complete_Rpt_F_Mar31_2016.pdf.

Engaged stakeholders in initiatives aimed at minimizing risk and maximizing opportunities associated with the transition to a lower-carbon and energy-efficient economy.

Completing and Evaluating the HotShots Initiative

The HotShots initiative was a one-year pilot project launched by the Government of Newfoundland and Labrador to raise awareness about energy efficiency and conservation among students and teachers within the province. The pilot project was launched on October 10, 2014, and concluded on June 21, 2015. An evaluation of the initiative was conducted and found that, overall, the HotShots initiative met or exceeded all established targets. Notable achievements as part of the initiative include:

- 1,044 resource packs were distributed to all schools in the province;
- 191 in-school presentations were delivered to about 5,500 students at 56 schools in the province. These are in addition to presentations delivered by the utilities through the takeCHARGE! program;
- An in-classroom contest for grades 7-12 was delivered to complement the existing takeCHARGE! contest for grades K-6, while opening both contests to entries in French for the first time. In total, 69 entries were received and three schools won prizes (Labrador City, Deer Lake and St. John's); and
- A new website was launched for teachers that links online resources about energy efficiency and conservation to curriculum outcomes for particular courses. During the program period, the website had 4,000 page views

from about 2,000 users.

- Expenditures were approximately $160,000 against a project budget of $200,000.
- A project summary is available at: http://www.exec.gov.nl.ca/exec/ccee/publications/HotShots_project_summary.pdf.

Examining the Case for Adopting the National Energy Code for Buildings (NECB)

The Office completed stakeholder consultations as part of its work in examining the case for adopting the NECB in Newfoundland and Labrador. In 2014-15, CCEE contracted an external consultant, Caneta Resources, to undertake a technical analysis to inform CCEE consultations with stakeholders. The consultant's report assessed the energy performance of buildings relative to current construction practices, and included a lifecycle costing analysis. This work was expanded in 2015-16 to include northern climate regions in Labrador (at marginal extra cost). The consultant was also contracted to present the technical findings of the work during stakeholder consultations. The report and a copy of the findings of stakeholder consultations can be found online at: http://www.exec.gov.nl.ca/exec/ccee/publications/necb_cons_what_we_heard.pdf

Objective and Indicators for 2016-17

The following table provides CCEE's objective and indicators for the 2016-17 fiscal year.

Objective 2.3	By March 31, 2017, the Office will have assessed progress on the Climate Change and Energy Efficiency Action Plans and developed an approach to build on these strategic frameworks.
Measure: Assessed progress in meeting government's commitments to maximize opportunities associated with transitioning to a lower-carbon and more energy-efficient economy and advanced development of a renewed strategic approach.	

Indicators:

- Engaged departments and agencies in implementing and assessing progress on government's commitments on transitioning to a lower-carbon and more energy-efficient economy.
- Engaged stakeholders in initiatives aimed at supporting the transition to a lower-carbon and energy-efficient economy and in the development of a renewed strategic approach.

5.0 Opportunities and Challenges

Climate change featured prominently on the agenda of numerous high-level intergovernmental meetings and conferences throughout 2015-16. In December 2015, global leaders met in Paris at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC), and signed the Paris Agreement, a new legally-binding agreement to tackle climate change beyond 2020. Building on this momentum, federal, provincial and territorial First Ministers met in Vancouver in March 2016 and agreed to develop a pan-Canadian framework on clean growth and climate change. Newfoundland and Labrador has committed to actively participate in this work.

Action on climate change has the potential to create opportunities for Newfoundland and Labrador. Jurisdictions around the country and the world are increasingly seeking low-carbon and energy-efficient solutions to meet climate change commitments. Businesses in the province that are engaged in developing and providing low-carbon and energy-efficient products and services may see opportunities in both domestic and export markets. As some industries in the province are energy intensive and trade exposed, it is important any approach to tackle climate change balances environmental and economic considerations.

Achieving improvements in energy efficiency will continue to be a priority for the Government of Newfoundland and Labrador as it maintains its commitment to reduce local GHG emissions. In addition to environmental benefits, improvements in energy efficiency can generate wider benefits, including reduced monthly bills for homeowners and lower operating costs for businesses. The demand for energy-efficient and environmentally sustainable products and services is increasing, which is fostering innovation and presenting new opportunities for Newfoundland and Labrador to seize in the global green economy. These include opportunities in the development of renewable energy, examples of which include Newfoundland and Labrador's 824 MW Muskrat Falls hydroelectric project and the work being done to decarbonize electricity generation in Ramea.

Action on climate change and energy efficiency must balance environmental, social and economic considerations. The International Energy Agency has reported that economic growth is decoupling from GHG emissions. This appears to hold true in Newfoundland and Labrador. For example, between 1990 and 2010, real GDP in the province grew by 70 per cent, and despite this, the province came within 7.5 per cent of achieving its 2010 target of reducing GHG emissions back to 1990 levels. Building on this, the province's GHG target for 2020 is to reduce GHG emissions by 10 per cent below 1990 levels, and to further reduce emissions to between 75 and 85 per cent below 2001 levels by 2050.

Government has committed to develop a new climate change strategy for the province. CCEE will undertake public consultations and this will provide an opportunity to get a better understanding of the perspective of key stakeholders and the public on a range of important issues.

Appendix: Financial Statements

Expenditure and revenue figures included in this document are un-audited and based on public information provided in the Report on the Program Expenditures and Revenues of the Consolidated Revenue Fund for the year ending March 31, 2016. Audited financial statements are a requirement at the government level and are made public through the Public Accounts process. CCEE is not required to submit a separate audited financial statement.

Item	2015-16 Budget	2015-16 Revised	2015-16 Actual
Salaries	765,600	643,900	643,887
Employee Benefits	2,400	2,400	2,296
Transportation and Communications	33,000	33,000	30,781
Supplies	5,500	6,600	6,593
Professional Services	310,000	391,100	360,947
Purchased Services	13,000	8,500	7,214
Property, Furnishings and Equipment	1,000	600	500
Total	**1,130,500**	**1,086,100**	**1,052,218**

Office of Climate Change and Energy Efficiency
Executive Council
Government of Newfoundland and Labrador
P.O. Box 8700
St. John's, NL A1B 4J6
Telephone: (709) 729-1210
Fax: (709) 729-1119
climatechange@gov.nl.ca
www.gov.nl.ca/exec/ccee

Newfoundland
Labrador